

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/CA/01754

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/82 C12N15/11 C07K14/415

Rec'd PCT/PTO 12 MAR 2005

10/534744

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GUSTA L. ET AL.: "Genetic engineering of cultivated plants for enhanced abiotic stress tolerance" 1 October 2002 (2002-10-01), KLUVER ACADEMIC, NEW YORK XP008029213 page 237 -page 248 --- -/--	1-52

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

31 March 2004

Date of mailing of the international search report

16/04/2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ROBERTSON A J ET AL: "Absciscic acid-induced heat tolerance in Bromus inermis Leyss cell-suspension cultures: Heat-stable, absciscic acid-responsive polypeptides in combination with sucrose confer enhanced thermostability" PLANT PHYSIOLOGY, vol. 105, no. 1, 1994, pages 181-190, XP002247192 ISSN: 0032-0889 cited in the application page 182, column 2, paragraph 3 -page 183, column 1, paragraph 1 page 188, column 2, line 23 - line 45; table III</p>	<p>1-22, 24-29, 31-52</p>
X	<p>WO 00 08187 A (VLAAMS INTERUNIV INST BIOTECH (BE)) 17 February 2000 (2000-02-17) SEQ ID NO:81 page 2, line 13 - line 26 page 7, line 29 -page 8, line 5 page 18, line 1 -page 19, line 14</p>	<p>26-28, 31,37-47</p>
X	<p>DATABASE EM_PL 'Online! 26 April 2002 (2002-04-26) BUELL C.R. ET AL.: "Oryza sativa chromosome 3 BAC OSJNBa0091P11 genomic sequence, complete sequence" Database accession no. AC073556 XP002275352 abstract</p>	<p>2,6, 11-20, 24-28, 45-52</p>
A	<p>ROBERTSON ALBERT J ET AL: "The effect of prolonged absciscic acid treatment on the growth, freezing tolerance and protein patterns of Bromus inermis (Leyss) cell suspensions cultured at either 3 degrees or 25 degrees C" JOURNAL OF PLANT PHYSIOLOGY, vol. 145, no. 1-2, 1995, pages 137-142, XP008029088 ISSN: 0176-1617 the whole document</p>	<p>1-52</p>

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>LEE ET AL: "Molecular cloning of abscisic acid-responsive mRNAs expressed during the induction of freezing tolerance in bromegrass (<i>Bromus inermis</i> Leyss) suspension culture"</p> <p>PLANT PHYSIOLOGY, vol. 101, 1993, pages 1089-1096, XP002094162 ISSN: 0032-0889 page 1090, column 2, paragraph 5 -page 1091, column 2, paragraph 3 -----</p>	1-52

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International Application No.
PCT/CA 03/01754

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1,26,28,31-47,51 (incomplete search)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1,26,28,31-47,51 (incomplete search)

Present claims 1,31,38-40,42-46 and 51 relate to a compound defined by a name chosen by the applicant ("ROB5"), with no recognised meaning in the art. The use of this parameter in the present context is considered to lead to a lack of clarity within the meaning of Article 6 PCT. It is impossible to compare the parameter the applicant has chosen to employ with what is set out in the prior art. The lack of clarity is such as to render a meaningful complete search impossible. Consequently, the search has been restricted to a compound as defined in claims 2-10 or 11.

Present claim 26 relates to an extremely large number of possible methods for identifying and isolating DNA sequences. The number of degenerated oligonucleotide primers involved in said methods is extremely large, while no example of such a primer is given in the application. Hence, the claim so lacks support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, no search has been carried out for claim 26.

Similarly, no search could be carried out for subject-matter of claim 28, which relates to an extremely large number of possible pairs of primers, while the application discloses no such pair of primers.

Further, present claims 31-47 also relate to an extremely large number of possible methods involving undefined nucleotide sequences ("nucleotide sequence DERIVED FROM a ROB5 gene"; "nucleotide sequence encoding a peptide having at least 50% identity to the peptide indicated in SEQ ID NO:1 or A PART THEROF"; "nucleotide sequence that binds under 'stringent conditions' (wherein 'stringent conditions' are defined as on p. 20 ,1.29-p.30, 1.1 of the description); "MUTATED ROB5 gene"; "an ENDOGENOUS ROB5 or HOMOLOGUE thereof"). In fact, the claims contain so many options that in each case a lack of clarity and conciseness within the meaning of Article 6 PCT arises to such an extent as to render a meaningful search of the claims impossible. Consequently, the search has been carried out for those parts of claims 31-47, which refer to a nucleotide sequence as indicated in SEQ ID NO:1, or as defined in claims 2-10 and to a peptide as defined in claim 11.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0008187 A	17-02-2000	AU 762390 B2	26-06-2003
		AU 5419799 A	28-02-2000
		CA 2336227 A1	17-02-2000
		WO 0008187 A2	17-02-2000
		EP 1100940 A2	23-05-2001
		JP 2002524052 T	06-08-2002
		US 2003162294 A1	28-08-2003